OBJECTIVES: Telerehabilitation after Total Knee Replacement (TKR) showed to be not inferior to standard rehabilitation (SR) in clinical outcomes in patients without complication related to TKR surgery. Both utilities and cost-utilities are currently unexplored for telerehabilitation. The aim of this economic evaluation was to assess the potential cost-utility of a mixed telerehabilitation-SR (TR-SR) versus SR programme. **METHODS:** A Markov model simulated the natural progression of TKR, assuming telerehabilitation is not influencing transition probabilities and HRQOL. Revision risk and utilities were calculated from patient-level data from the multicentre KAT trial, respectively employing parametric survival and linear regression models. Published literature provided the remaining state-transition probabilities; while rehabilitation and transportation costs were identified adopting Ita-NHS perspective and monetized employing Italian tariffs. The patients without complication were assigned to the TR-SR programme and received half of the sessions in SR and half in telerehabilitation regime. Patients with any complication followed the SR. Costs and effects were adjusted applying half-cycle correction and an annual discount rate of 3%. Probabilistic sensitivity analysis (PSA) described the parameters uncertainty and one-way sensitivity analysis assessed the robustness of our assumption for HRQOL. **RESULTS:** Both SR and TR-SR were assessed using a cohort of 1000 patients with the KAT trial features (70 years old, 44% male and 19% had any complication). The mean±95%CI difference between TR-SR and SR was -215.33±€10.64 (the mean (SE) lifetime healthcare costs were €1,033.81 (€21.97) for SR and €818.44 (€13.82) for SR-TR). The mean (SE) lifetime QALY was 9.69 (0.003). If telerehabilitation at least will not decrease the utilities observed in SR, the probability that telereahabilitation is cost-saving (WTP:0€ per QALY) is 90%. **CONCLUSIONS:** SR-TR could be cost-effective for the Ita-NHS if it does not impair the patients' HRQOL. Specific utilities for telerehabilitation after TKR and further sensitivity analyses are required to relax our assumptions.

PMS86

COST-UTILITY ANALYSIS OF POTENTIAL CAMPYLOBACTER CONTROL MEASURES IN THE FOOD CHAIN OF INDOOR BROILER CHICKEN IN THE EU

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OBJECTIVES: Campylobacteriosis is one of the most important human foodborne infections, attributed to broiler chicken consumption in about 30% of cases. In a recently published cost-utility model of potential Campylobacter control measures in the EU-27, model assumptions on disease burden and cost of illness were driven by data from the Netherlands. The aim of our work was to gather country-specific cost of illness estimates, to generate a conservative estimate of Campylobacter related disease burden expressed in QALYs, and to re-assess the cost-effectiveness of control measure options. **METHODS:** Data from the Netherlands on productivity loss and direct healthcare costs were corrected for country-specific gross average wages and total health expenditure per capita, respectively. Health burden due to acute gastroenteritis, Guillain-Barré syndrome, and reactive arthritis were estimated from published data. Inflammatory bowel disease and irritable bowel syndrome were omitted, in line with a WHO opinion. **RESULTS:** Based on the adapted model, the EU-wide implementation of the available and acceptable measures against Campylobacter in indoor broiler chicken would be a dominant strategy as compared to the current practice, yielding 26400 QALY gain and 85 million EUR cost saving each year. The expected cost saving is due to the decrease of productivity loss (69%) and direct healthcare costs (31%). As the investigated strategy is not to be reimbursed by healthcare payers, the societal perspective is justified. The poster also presents a strategic pricing exercise on bacteriocin treatment in the UK and in Hungary (an intervention option currently under development). **CONCLUSIONS:** Implementation of the investigated control strategy would be dominant at the EU-27 level. The cost-effectiveness of add-on bacteriocin treatment in the UK could not be justified at the assumed price level. Public health, and also the allocative efficiency of public health budgets, could benefit from the application of HTA methodology in food safety and nutritional policies.

PMS87

THE IMPACT OF SPA THERAPY ON AMBULATORY HEALTH CARE EXPENSES OF OSTEOARTHRITIC PATIENTS: THE PRELIMINARY RESULTS OF ECOTHERM STUDY

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OBJECTIVES: To describe the cost of ambulatory health care expenses of osteoarthritic patients before and after a spa therapy between 2006 to 2011 among the French state employees. **METHODS:** The study is based on patients covered by Mutualité de la Fonction Publique Services (MFPS) Health Insurance Company. All patients older than 49 years, treated with a spa therapy during 2006-2011 period and who have not been treated by spa therapy since at least 2 years were selected and considered as « new spa-goers ». The study focused on « osteoarthritic patients » defined as those treated by a physiotherapist and/or a rheumatologist during the semester before the spa therapy. Data came from MFPS database used to manage the reimbursement of health care expenses. Data were collected on a monthly basis: medical and paramedical fees, drugs expenses, biological and X-Ray fees. All expenses aggregated costs met by National Health Insurance Company (CNAMTS), Complementary Health Insurance Company and patients. Statistical analysis were done using Stata v11 software. The expenses distribution were compared using the Wilcoxon test (p value <0.05). **RESULTS:** Among 10,540 patients treated by spa therapy, 4,429 osteoarthritic patients (8,072 spa therapy) were selected. The mean level of expenses was 1,714.86 € during the semester before and 1,529.33 € after the spa therapy (p<0.001). This decrease (-185.53 €, -10.8%) concerns physiotherapists fees (- 93.77 €, -41.7%), drugs expenses (-26.70 €, -5.1%), rheumatologists fees (-15.63 €, -42.2%), X-Ray (-17.68 €, -19.7%), GPs fees (-13.33 €, -7.1%) and neurologists fees (-1.66 €, -26.9%). These decreases are greater among the 50-64 years old (-219.58 €, -13.7%) and after the first spa therapy (-206.92 €, -12.8%), but remains significant after next spa therapy. **CONCLUSIONS:** In France, ambulatory health care expenses concerning osteoarthritic patients decreases during the semester following a spa therapy.

PMS88

PRODUCTIVITY LOSS DUE TO LOW BACK PAIN: RESULTS FROM SWEDISH REGISTERS

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OBJECTIVES: This study aimed to evaluate the trajectory of losses to paid production in patients with low back pain with/without radiant pain (LBP) before and after the start of the condition onset, and before and after surgery for LBP. **METHODS:** Patients visiting healthcare providers, or receiving health insurance benefits, with a LBP-diagnosis in region of Västra Götaland in 2008-2012 were identified in the VEGA database, along with patients who underwent surgery during 2000-2012, identified from the national spine surgery register "SWESPINE". Data from additional Swedish national registers including inpatient and outpatient care, drug prescriptions, socioeconomics and social security were extracted. Days of sick leave and early retirement were summed and multiplied with the per-day gross wage to obtain total cost. Two patient-groups were created and analysed separately; those who did not undergo surgery and those with surgery. Patients without surgery were followed for 3 years before/after the "onset-date", defined as the first observed event with a specific LBP-diagnosis, and patients with surgery 3 years before/after surgery date. **RESULTS:** More than 145,000 patients were identified. In patients who did not undergo surgery, monthly productivity cost gradually increased during the 1-12 months pre-onset date, peaking at 1 month post-onset date (€1,995), levelling at a rate higher in the 12-36 months post-onset (average €1,022/month) compared to 12-36 months pre-onset (average €605/month). In the surgery-group, a similar trajectory was found; on average €1,345/month in the 12-36 months pre-surgery, peaking at 1 month post-surgery (€2,920), levelling at €1,469/month in 12-36 months post-surgery. Women showed higher productivity cost than men, as well as older patients compared to younger. **CONCLUSIONS:** Indirect costs related to LBP are high. Interventions with the potential of improving treatment of LBP can be expected to reduce the burden of disease. Acknowledgements: The study was financed with an unrestricted grant from Medtronic.

PMS89

THE IMPACT OF ANTI-TNF (ETANERCEPT) THERAPY ON WORK PRODUCTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS, PSORIATIC ARTHRITIS AND PSORIASIS IN THE CZECH REPUBLIC

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OBJECTIVES: The aim of this study was to examine the impact of etanercept (ETN) therapy on work productivity in patients with rheumatoid arthritis (RA), psoriatic arthritis (PsA) and psoriasis (PS), who are not responding to disease-modifying antirheumatic drugs (DMARDs) in prospective real world observation in the Czech Republic. The data collection is still ongoing. **METHODS:** Work productivity was examined in 17 working patients (6-RA, 8-PsA and 6-PS) using the Health and Work Productivity Questionnaire (HPQ) before ETN treatment initiation and after 3 months of treatment. Productivity losses were monetized using average wage calculated by friction cost (FC) and human capital (HC) approaches. We also measured health-related quality of life (HRQoL) using the EQ-5D-3L questionnaire. **RESULTS:** The baseline values of absenteeism (Ab), presenteeism (Pr) and total HPQ score were 0.062, 0.754 and 0.693, respectively. Ab decreased to 0.000 while Pr and total HPQ score significantly increased to 0.899 (p = 0.0456 and 0.006) after 3 months of treatment. The average productivity loss per patient was €1,705 (FC) or €38,819 (HC) at the baseline and it decreased to €573 (FC) or €12,971 (HC) after the three months of ETN therapy. The largest change in total HPQ score was 0.211 in RA (PsA-0.197, PS-0.166). Consequent changes in productivity losses were equal to -€1,175 (FC) or -€25,495 (HC) in RA, -€1,062 (FC) or -€16,536 (HC) in PsA, and -€921 or -€35,743 (HC) in PS. The 3-months ETN therapy also significantly increased the HRQoL: the baseline EQ-5D-3L index of 0.659 increased to 0.880 (p<0.001) and EQ-VAS score of 39.5 increased to 70.9 (p<0.001). **CONCLUSIONS:** Modern biological anti-TNF (etanercept) therapy has proved to substantially decrease the negative effect of RA, PsA and PS on patients' work productivity leading to lower productivity costs and also improvement of theirs quality of life.

PMS90

DISPENSING FREQUENCY AMONG PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH RITUXIMAB IN ENGLAND

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OBJECTIVES: The objective of this study was to describe the real-world use of rituximab, specifically through examining dispensing frequency among patients with rheumatoid arthritis (RA) in England. **METHODS:** A longitudinal, retrospective cohort study was conducted using the Hospital Treatment Insights (HTI) database, which links pseudonymised patient data with hospital pharmacy dispensing. HTI includes data from January 2010 to September 2014. Included patients were adults with RA, defined using ICD-10 codes, who received ≥4 dispenses (2 courses) of rituximab, with the first course completed within 4 weeks of the index dispense. In line with the Summary of Product Characteristics for rituximab, patients must have received 1000mg at the index dispense. Any patient with a diagnosis of haematological cancer at or prior to index was excluded. **RESULTS:** One thousand three hundred and eighty-one patients had sufficient data to determine dispensing frequency. The majority of included patients were female (78.9%), aged 53 and above (60.8%), and were dispensed rituximab by a rheumatologist (where consultant type could be identified). Two courses of rituximab was the most common number of courses received, though some patients received up to 7 courses. The median time between courses was found to change with subsequent courses, decreasing from 37.0 weeks

between the first and second courses to 23.9 weeks between the sixth and seventh courses. Subgroup analyses performed in 115 patients receiving rituximab in line with National Institute for Health and Care Excellence (NICE) guidance, i.e. after prior biologic therapy, demonstrated that dispensing frequency in this group did not differ markedly from the whole cohort. **CONCLUSIONS:** The findings of this analysis show that long-term rituximab use in the National Health Service differs from that assumed by NICE in previous appraisals of biologics in RA, with possible implications for future assessments of cost-effectiveness.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PMS91
ASSOCIATION OF MEDICATION PERSISTENCY WITH ROUTE OF ADMINISTRATION AND PATIENT COST-SHARING: ANALYSIS OF COMMONLY USED BIOLOGICS

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OBJECTIVES: To determine 12-month persistency rates for five commonly-used anti-inflammatory biologic agents and identify cost and patient characteristics associated with persistency. **METHODS:** Using an administrative claims database for >30 U.S. commercial health plans (9.2 million members), we identified patients aged ≥18 years who had ≥1 claim for a biologic anti-inflammatory agent (tocilizumab, certolizumab pegol, etanercept, adalimumab or infliximab) in 2012 or 2013 and were continuously enrolled for ≥15 months after the initial claim date. We determined rates of 12-month persistency overall and by drug, diagnostic indication, comorbidity count, route of drug administration, and copayment level. **RESULTS:** A total of 15,834 patients met study criteria. Twelve-month persistency rates were 70.7% among all patients and 51.5% among patients new to therapy. Persistency was highest for infliximab (82.3%), followed by adalimumab (66.1%), certolizumab pegol (65.5%), etanercept (65.1%), and tocilizumab (60.6%) (P<0.001). Higher persistency was observed for drugs administered intravenously (81.2%) versus subcutaneously (65.6%) (P<0.01). Persistency was higher in patients with Crohn's disease/ulcerative colitis (79.1%) than in patients with rheumatoid arthritis (67.0%) or psoriatic conditions (61.4%) (P<0.01) and was also higher in patients with no comorbidities than in those with 1 or ≥2 (P<0.01). Highest persistency was observed for patients with a mean plan copayment of $50 to <$100, followed by $0 to<$50, $100 to <$300, and ≥$300 (P<0.01). This trend was observed irrespective of intravenous or subcutaneous route of administration. **CONCLUSIONS:** Twelve-month persistency with anti-inflammatory biologic agents was highest in patients with Crohn's disease and lower in patients new to therapy and in those with comorbidities. Persistency was higher for drugs administered intravenously versus subcutaneously. Although the relationship between persistency and cost-sharing was not linear, copayments ≥$300 were associated with lowest persistency. Patient and plan characteristics should be considered in efforts to improve patient adherence to therapy.

PMS92
PRIMARY NON-ADHERENCE TO ANTIOSTEOPOROTIC TREATMENT AND ASSOCIATED FACTORS: A PROSPECTIVE COHORT STUDY IN SPAIN

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OBJECTIVES: Non-adherence to treatment represents an important public health problem. Little is known about the frequency with which patients fail to fill initial prescriptions ("primary non-adherence") and its predictors. Our aim was to estimate primary non-adherence to antiosteoporotic treatment and its associated factors. **METHODS:** Prospective cohort study comprising men and women ≥50 years (ESOSVAL cohort) who started antiosteoporotic treatment between 2009 and 2011. Data were obtained by linking diverse electronic health records of the Valencia region, which allows the differentiation between prescriptions (what the doctor prescribed) and dispensing (what the patient fills from the pharmacy) at individual level. A descriptive analysis was performed according to primary non-adherence and a multivariable logistic regression analysis to assess factors associated (patient characteristics and medication related covariates) with primary non-adherence. **RESULTS:** From 2260 treated patients of the ESOSVAL cohort 712 (31.5%) were new users. Of those, 80% were female, mean age 65.4 (64.7-66.1), 22.3% had previous osteoporotic fracture, and 22.2% had a 10-year risk of hip fracture ≥3. Most of the patients (84.1%) were treated with bisphosphonates. Regarding primary non-adherence, 6.5% of patients did not fill their first prescription at the pharmacy. These patients were more likely to be younger, to use medications that decrease bone mass, to have concomitant medications, to have high risk of hip fracture (assessed by FRAX), and hospitalizations in the last year. Factors independently associated with primary non-adherence were being over 65 years old (OR:0.29; CI95%:0.13;0.64) compared to the 50-65 year-old age stratum and polypharmacy (OR:0.45; CI95%: 0.24;0.86). **CONCLUSIONS:** Primary non-adherence was substantial although lower than that observed in other therapeutic areas. Very few characteristics were independently associated with primary non-adherence. Our findings suggest that those at higher risk for osteoporotic fracture and older were more likely to be non-adherent. Further research is needed regarding primary non-adherence predictors.

PMS93
AN ECONOMIC EVALUATION TO ASSESS THE COST EFFECTIVENESS OF THE NEW MEDICINE SERVICE IN IMPROVING ADHERENCE IN PEOPLE INITIATED ON NEW TREATMENT FOR GOUT

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OBJECTIVES: The New Medicine Service (NMS) is a national community pharmacy service to support medicines-taking in people starting a new medicine for defined long-term conditions. The study investigated the expansion of NMS for patients with gout newly prescribed allopurinol as urate lowering therapy(ULT). Non-adherence with ULT is >60% in the UK **METHODS:** A probabilistic cost-effectiveness analysis from a NHS perspective was conducted to compare NMS (two follow-up consultations to identify and resolve medicines problems) with standard practice (SP) (usual supply without further follow-up).Treatment success was defined as patients reaching serum-uric-acid-levels <6mg/dL (sUA-controlled). A Markov model was developed to generate incremental cost-effectiveness ratios (ICER). Three health-states were included: sUA-controlled; sUA-uncontrolled; death. sUA-uncontrolled is associated with more acute gout attacks, higher mortality and is more likely in non-adherent patients. Cycle length was 1 year with a life-time horizon. Transition probabilities, resource use and utilities were derived from published studies. Costs and utilities were discounted at 3.5%. The results were plotted on an ICER-scatter-plane and presented as a cost-effectiveness acceptability curve (CEAC). **RESULTS:** mean (95% CI) cost per patient- NMS: £2569.43 (2203.69, 2935.17); SP: £2595.39 (2229.63, 2961.14) and mean (95% CI) QALYs generated per patient- NMS: 10.39 (10.10, 10.68) SP: 10.34(10.06,10.60) suggested that NMS dominated SP with increased QALYs (0.058 (-0.0008, 0.1168)) and reduced costs (-£25.96 (-81.37, 29.44). There was a 83.3% probability that NMS dominated SP and 98.4% probability that NMS was cost-effective at £20000 per QALY ceiling willingness-to-pay. **CONCLUSIONS:** NMS appears to be cost-effective when initiating ULT. It was assumed NMS would increase ULT adherence by 11% as in other diseases. NMS remained dominant down to an adherence increase of 5.4%. Reasons for ULT nonadherence matched the intervention design but further work is needed to assess the actual effectiveness of NMS in ULT.

PMS94
SYSTEMATIC REVIEW OF COMPLIANCE TO BISPHOSPHONATES IN PATIENTS WITH OSTEOPOROSIS IN RCT AND REAL PRACTICE

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BACKGROUND: Compliance to therapy is a widespread public health concern especially for chronic diseases, such as osteoporosis, as it is associated with increased morbidity and mortality due to fragility fractures. **OBJECTIVES:** To conduct the systematic review of clinical trials evaluating adherence to oral and parenteral bisphosphonates in patients with postmenopausal and senile osteoporosis. **METHODS:** We searched publications in PubMed and the Cochrane Library in November 2014. Studies of any design published in English were considered. The following criteria of medication adherence were taken into account: persistence rate (percentage of patients remaining on therapy at a given time). compliance rate (percentage of patients act in accordance with the prescribed interval and dose of a dosing regimen), medication possession ratio (proportion of doses dispensed in relation to doses prescribed), persistence (number of days from initiation to discontinuation of therapy). **RESULTS:** Thirty one publications were included (1 meta-analysis, 5 systematic reviews, 14 RCT, 7 prospective cohort studies, and 4 retrospective cohort studies). Original studies were heterogeneous in terms of drugs, treatment regimes, follow up periods, and measurements of adherence, so quantitative meta-analysis was not possible. The 12 months persistence rate for patients receiving oral bisphosphonates varies in the range of 16-78% in real practice and 54-88% in RCT. The persistence rate for parenteral bisphosphonates at 12 months was 86% in one real practice study, and 95% in one RCT. **CONCLUSIONS:** Methodology of evaluating compliance/adherence or persistence is heterogeneous among the studies of bisphosphonates treatment in patients with osteoporosis. Compliance and persistence with bisphosphonates are poor and suboptimal in real practice. The parenteral administration of bisphosphonates seems to have enhanced adherence when compared with oral bisphosphonates.

PMS95
MEDICATION-TAKING BEHAVIOUR IN WOMEN WITH POSTMENOPAUSAL OSTEOPOROSIS (OP) TREATED WITH DENOSUMAB OR MONTHLY ORAL BISPHOSPHONATES (OBPS)

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OBJECTIVES: To describe treatment discontinuation among postmenopausal women initiating denosumab or monthly oBPs in routine clinical practice in Bulgaria. **METHODS:** This retrospective chart review, conducted in 12 Bulgarian endocrinology or rheumatology practices, included postmenopausal women ≥50 years old initiating denosumab or monthly oBPs between 1-Oct-2011 and 30-Sep-2012, followed up to 24 months after treatment initiation. For both denosumab and monthly oBPs, discontinuation date was taken from the patients' medical records (including any switch to another treatment/dosing regimen). If no such date was recorded, patients' were assumed to have continued on treatment. Denosumab persistence at 12, 18 and 24 months was defined as receiving the subsequent injection 6 months +60-days after the previous injection. Persistence to monthly oBPs could not be calculated. **RESULTS:** A total of 224 women initiating denosumab and 217 initiating monthly oBPs met the inclusion criteria. Of these, 57 (25%) initiating denosumab and 38 (18%) initiating monthly oBPs had experienced ≥1 prior OP fracture; 3 (1.3%) initiating denosumab and 8 (3.7%) initiating monthly oBPs experienced ≥1 OP fracture during the follow-up period. At treatment initiation, mean (SD) BMD T-scores for the denosumab and oBPs groups were -3.2 (±0.65) and -3.0 (±0.57) at the lumbar spine, -3.2 (±0.69) and -2.8 (±0.73) at the total hip and -2.6 (±0.71) and -2.4 (±0.77) at the femoral neck. Within the 24-month follow-up, 4.5% of women initiating denosumab and 56.2% initiating monthly oBPs discontinued treatment; median (interquartile range) time to discontinuation, 729.0 (728.3„Ÿ729.0) and 367.0 (354.0„Ÿ484.8) days, respectively. Denosumab persistence was 100%, 99.1% and 98.7% at 12, 18 and 24 months, respec-